



Syllabus for Domain and Specialization/ Function (Sub Inspectors)

1. Cyber Security

| Cyber Security |
|--|
| <ul style="list-style-type: none">• Fundamentals of Cyber Security<ul style="list-style-type: none">○ Cybersecurity Concepts and Security in Evolving Technologies○ Information and network security○ Cyber Attacks○ Cyber Laws and Forensics including IT Act, Personal Data Protection Bill 2019 and Cert-In Rules 2013 |
| <ul style="list-style-type: none">• Security Architecture<ul style="list-style-type: none">○ Identity and Access Management○ Understanding Security Operation○ Incident Response Process○ Contingency planning in the event of cyber attack○ Logging, Monitoring and Auditing○ Security Event generation and Collection |
| <ul style="list-style-type: none">• Network and Communications Security<ul style="list-style-type: none">○ Principles and Components of Network Security○ Types of Attack○ Fundamentals of Connections, Requests, Ports and Packets○ Design and Configuration of Firewalls○ VPN Configuration○ IDS Configuration○ Concept of Keys and Encryption Techniques○ Kerberos and Hashing Techniques○ Symmetric Key Cryptography and Algorithms (DES and AES)○ Public Key Cryptography (RSA) and Message Authentication○ Digital Signatures○ IPSec Protocols |
| <ul style="list-style-type: none">• Web Application Security<ul style="list-style-type: none">○ Web application Security Fundamentals○ Web Application Vulnerabilities○ OWASP Top 10 Vulnerability○ Web Application Mitigations |



Cyber Security

- **Ethical Hacking and VAPT**

- Ethical Hacking
- Vulnerability Assessment
- Penetration Testing

- **Cyber Forensics and Investigation**

- Fundamentals of Cyber Forensics and Investigation, Acquiring Evidence
- Investigation
- Windows and Linux Artifacts Analysis and Document Forensics
- Email Forensics and Mobile Forensics – Investigation Techniques
- Fundamentals of Security in Android, Vulnerabilities in Public Exploits
- Laws

- **Malware Analysis**

- Fundamentals of Malware Analysis
- Advanced Static and Dynamic Analysis

- **Threat Hunting and OSINT**

- Fundamentals of threat, OSINT and Social Media Intelligence
- People, Process and Technology in Threat Hunting
- Effective Use of Cyber Threat Intelligence for Hunting
- OSINT Theory and Methodology Adoption
- Data Breaches Collection Tools
- Vulnerabilities in modern applications



2. Geographical Information System (GIS)

| Geographical Information System (GIS) | |
|---------------------------------------|--|
| • | Fundamentals of GIS theory |
| • | Understanding of spatial analysis |
| • | Understanding of map design |
| • | GIS Data <ul style="list-style-type: none">○ Data collection, storage, and editing○ GIS Vector Data Model, Topology, Shapefiles○ GIS Raster Data Model, Raster Analysis |
| • | GeoCoding <ul style="list-style-type: none">○ Address Geocoding○ Building a Geodatabase○ Reverse GeoCoding |
| • | Maps <ul style="list-style-type: none">○ Creating and using maps○ Analyzing mapped information○ Sharing and discovering geographic information |
| • | Python Skills <ul style="list-style-type: none">○ Handling different types of variables including number, string, Boolean○ Handling different Data Types including List, Tuple, Set, Dictionary○ Handling of Loop○ Expertise in Pandas Dataframes○ Reading and writing of CSV files○ ETL (Extract/Transform/Load)○ Data Cleansing |
| • | SQL Query & Update <ul style="list-style-type: none">○ Basics of SQL syntax○ Aggregate functions with GROUP BY commands○ Select/Insert/Update SQL Commands○ SQL Nested Queries○ Use of Indexes to improve Query Performance |



3. Data Mining

| Data Mining |
|---|
| <ul style="list-style-type: none">• SQL Query<ul style="list-style-type: none">○ Basics of SQL syntax○ Aggregate functions with GROUP BY commands○ Advanced queries with string operations and comparison operations○ SQL JOIN commands○ SQL Nested Queries○ Use of Indexes to improve Query Performance |
| <ul style="list-style-type: none">• Python Skills<ul style="list-style-type: none">○ Handling different types of variables including number, string, Boolean○ Handling different Data Types including List, Tuple, Set, Dictionary○ Handling of Loop○ Expertise in Pandas Dataframes○ Reading and writing of CSV files○ ETL (Extract/Transform/Load)○ Data Cleansing |
| <ul style="list-style-type: none">• Graph Databases<ul style="list-style-type: none">○ Graph DB Design○ Creation of Nodes and Edges○ Typical Graph DB queries○ Using Graph DB to find relationship between entities |
| <ul style="list-style-type: none">• Named Entity Resolution<ul style="list-style-type: none">○ Entity identification in unstructured data○ Named Entity Resolution |
| <ul style="list-style-type: none">• Identifying Patterns in Data<ul style="list-style-type: none">○ Framing and Testing of Hypothesis○ Use of Prediction Algorithms |



4. Network Management

Network Management

- **Network basics**
 - Network architectures (OSI Model)
 - Fundamentals of Hubs, switches & routers
 - Routing, VLANs and ACLs
 - IP addresses & IP subnetting
 - Cabling and Network topologies
- **DNS**
 - Installation and configuration of DNS
 - Installation and Configuration of Active Directory
 - Setup of Domains, Domain Users & Domain Security
 - Local and Domain Security Policy
 - Installation and Configuration of DHCP
- **VPN**
 - Configuration and Implementation of VPN
 - Setup and Configuration of IPsec VPN
 - Configuration and Implementation of Remote Access Services
- **Firewalls**
 - Installation and Configuration of Firewalls
 - Installation and Configuration of SSL Certificates
- **Routing and VLANs**
 - Installation and Configuration of VLANs
 - Configuration of Routing Tables
 - Network Traffic Management via Ports, Protocols, Source and Destination IPs
 - Configuration of Network Address Translation (NAT) to allow Internet Access
- **Managing Network Reliability and Availability**
 - Redundancy in Networking
 - Configuration of Redundant Networks
 - Configuration of Hardware Load Balancer
 - Installation and Configuration of Software Load Balancer
- **Basics of SDN & MPLS & Quality of Service (QoS) & Network Monitoring Tools**



5. Data Analytics

Data Analytics

- **Data Modeling**
 - Design schema in data modelling
 - Normalization & Denormalization
 - Primary Key & Foreign Key
 - Hashing
 - Hierarchical v/s Relational Database
- **SQL Query**
 - Basics of SQL syntax
 - Aggregate functions with GROUP BY commands
 - Advanced queries with string operations and comparison operations
 - SQL JOIN commands
 - SQL Nested Queries
 - Use of Indexes to improve Query Performance
- **Excel Skills**
 - Pivot Tables
 - Charts & Visualization
 - Functions used in Analytics - vlookup, sort, Date, string, Aggregate
- **Python Skills**
 - Handling different types of variables including number, string, Boolean
 - Handling different Data Types including List, Tuple, Set, Dictionary
 - Handling of Loop
 - Basic of Pandas Dataframes
 - Reading and writing of CSV files
- **MIS & Business Intelligence**
 - Basics of ETL (Extract/Transform/Load)
 - MIS Database Design Considerations
 - Building Reports and dashboards



6. Wireless & Telecommunications

| Wireless & Telecommunications |
|---|
| • Introduction of IP Phones and digital EPABX Connectivity. |
| • High Tech Digital Exchange. |
| • Digital Technology with advance features of digital wireless communication. |
| • Knowledge about Satellite Communication. |
| • Knowledge about Repeater Station for strengthening and improving the range of communication. |
| • Knowledge about Mobile HF Communication using half loop antenna. |
| • Knowledge about half Loop Antenna technique for HF mobile Communication i.e. NVIS (Near Vertical Incident Signal). |
| • Knowledge about Encryption/Decryption for transmission/ receiving in digital communication. |
| • Knowledge about operation of modern Digital testing/measuring instruments for newly launched Digital wireless equipments. |
| • Optical Fiber Communication. |
| • Maintenance of IT equipments as well as wireless equipment having Digital Technology. |
| • Knowledge about trunking technologies like TETRA, APCO |
| • Knowledge of various features of Digital Mobile Radios |
| • Knowledge of installation and surveillance of CCTV camera setup. |
| • Knowledge of handling of portable VSAT terminal like Flyaway satellite terminal for emergency purpose. |
| • Knowledge of Software defined Radios |
| • Knowledge of Internet of Things and Artificial Intelligence |



7. Website Administration

Website Administration

- **Manage Website Infrastructure**
 - Fundamentals of DNS (Domain Name System)
 - Installation and Configuration of Software and Hardware Load Balancer
 - Installation and configuration of reverse proxy server
 - Installation and Configuration of IIS and Apache Web Server
 - Starting and Shutting down of Web Server
 - Configuring and Troubleshooting Web Server
 - Configure access for users
 - Seamlessly connect to databases and other back-end components
- **Website Security**
 - Manage Security of Web Sites
 - Installation and configuration of SSL certificates
 - Installation and configuration of Web Application Firewalls
 - Knowledge of DDOS attacks
 - Knowledge of OWASP (Open Web Application Security Project)
 - Knowledge of VAPT (Vulnerability Assessment and Penetration Testing)
- **Monitor Performance and Redundancy**
 - Monitor website performance
 - Assess user feedback and Web Site usage
 - Provide Technical Support to users
 - Take Backup of Web Sites
 - Upgrade Web Applications with zero downtime
 - Examine Access and Error Logs
- **Create and Update Web Pages**
 - Maintain and Troubleshoot websites
 - Create simple web pages based on wireframes



8. Computer/ Digital Forensic Analysis

Computer/ Digital Forensic Analysis

- **Digital Forensic Tools**
 - Knowledge of Different Digital Forensic Tools including Cellebrite UFED 4PC, Cellebrite Pathfinder, Oxygen Forensic Detective, MSAB XRY, EnCase Forensic Software, AccessData Forensic Toolkit, Magnet AXIOM, Paraben E3 Universal, Cellebrite UFED Cloud Analyzer, Magnet AXIOM Cloud, AD Triage, Logicube Forensic Falcon Neo, Talon Ultimate, Tableau TD2u, FTK Imager
- **Digital Forensics**
 - Fundamentals of Computer Forensics
 - Understanding of Digital Forensics and Forensic Report
 - Data Acquisition of physical storage devices, Information hiding, registry & password recovery, Email & database forensics, Memory acquisition.
 - Knowledge of Forensic Investigations, Investigations Needs, Legal Process, and Computer Forensics Resources
- **Computer Forensics Tools**
 - Evaluating Computer Forensics Tool Needs, Types of Computer Forensics Tools,
 - Tasks Performed by Computer Forensics Tools, Tools Comparisons,
 - Computer Forensics Hardware and Software Tools,
 - Command-Line Forensics Tools, UNIX/ Linux Forensics Tools,
 - Forensic Workstations
 - Mobile phone Forensics: Mobile Phone data acquisition through logical, physical and file system techniques, forensic procedures, accessing files present in SIM card, device data and memory card. Procedures for imaging mobile USB mass storage devices.
- **Windows Systems and Artifacts**
 - Windows File Systems, File Allocation Table, New Technology File System,
 - Useable File Formats,
 - Unusable File Formats, Converting Files, Registry, Event Logs, Prefetch Files, Shortcut Files, Windows Executables etc.
- **Fundamentals of Network Security and Associated Techniques**
 - Command Line scripting
 - Firewall Design Principles, VPNs, Worms, Viruses, Security of Network Layer, Security of Application Layer Protocols, Different Forms of Vulnerabilities, Investigating Network Intrusions and Web Attacks, Router Forensics etc.



9. System Administration

System Administration

| |
|--|
| <ul style="list-style-type: none">• Installation Operating System (Windows and Linux)<ul style="list-style-type: none">○ Configuration of Operating System○ Assigning Hostnames for the machines○ Assigning IP addresses |
| <ul style="list-style-type: none">• Virtualization<ul style="list-style-type: none">○ Creation of Virtual Machines (VMWare)○ Startup and shutdown of Virtual machines○ Configuration of Virtual Machine resources○ Backup and Restore of Virtual Machine |
| <ul style="list-style-type: none">• File Systems & Storage<ul style="list-style-type: none">○ File Systems and types of File systems○ Configuration of Storage, Disk Partitions, Disk Volumes○ Understanding of NFS server and NFS clients○ Assigning folder permissions○ Backup and Restore○ Understanding RAID LEVELS○ Configuring different types of RAID LEVELS (0,1 and 5)○ Creating and mounting file system○ File security & Permissions |
| <ul style="list-style-type: none">• Print Services<ul style="list-style-type: none">○ print spooling○ Concepts and Operation○ Configuration and Cross-Platform Issues |
| <ul style="list-style-type: none">• FTP & Telnet<ul style="list-style-type: none">○ Configuring FTP server and FTP clients○ Configuring FTP user access, FTP security |
| <ul style="list-style-type: none">• Monitoring System Performance<ul style="list-style-type: none">○ Monitor and manage running processes○ Identify programs and processes consuming high CPU, memory, IO○ Kill processes○ Configuring Swap space○ Getting system information○ Remotely manage systems with SSH and RDP |
| <ul style="list-style-type: none">• Shell programming<ul style="list-style-type: none">○ Knowledge of Common Command Line Interface Commands (Windows and Linux)○ Basics of Shell Programming |



System Administration

- **Managing user & Groups**
 - Adding users, Groups
 - Deleting Users, Groups
 - Changing permissions and ownerships
- **DHCP**
 - Fundamentals of DHCP
 - Installation and Configuration of DHCP
 - Configuring DHCP server for different DHCP clients
- **DNS**
 - Installation and configuration of DNS
 - Installation and Configuration of Domain Name Controller
 - Installation and Configuration of Active Directory
 - Setup of Domains, Domain Users & Domain Security
 - Local and Domain Security Policy
 - Understanding of DNS records type
- **Web Server**
 - Installation and Configuration of IIS and Apache Web Server
 - Starting and Shutting down of Web Server
 - Configuring and Troubleshooting Web Server



10. Programming/ Coding

Programming/ Coding

- **Fundamentals of Object-Oriented Programming & Systems**
 - Object & Constructors
 - Inheritance
 - Polymorphism (Over Loading & Over Riding)
 - Abstraction & Interface
 - Encapsulation
- **Variable Manipulation**
 - Byte, Short, Integer, Long, Float, Double, Character
 - String Buffer
 - Single Dimensional Array
 - Multi-Dimensional Array
 - Exception Handling
 - Try-Catch-Finally
- **Multithreading**
 - Thread Creations
 - Thread Life Cycle
 - Life Cycle Methods
 - Synchronization
- **SWING (JFC)**
 - Introduction Diff B/W AWT and SWING
 - Components hierarchy
 - Panes
 - Individual Swings components J Label
 - JButton, JTextField, JTextAres
- **J2EE Containers**
 - Web Services Support
 - Web Server (Tomcat) and Application Server (JBOSS)
 - Overview, installation and Configuration
- **SQL**
 - Basics of SQL queries
 - SQL Joins
 - JDBC
 - Types of Drivers
 - Prepared Statement



Programming/ Coding

- **Http Session**
 - Cookies
 - URL-Rewriting
 - Hidden-Form Fields
 - Filters & Wrappers
 - Listeners
 - Web-Security
- **Basics of Spring Boot and Android Programing**



11. Database Administration

Database Administration

- **Installation and Startup Configuration**
 - Installing and configuration of RDBMS (MySQL and PostgreSQL)
 - Creation of Database, Tables, Indexes
 - Configure Partitioning
 - Database Configuration Parameters - Storage Size, Memory, Number of concurrent connections
 - Start and stop Database
 - Understand the stages of database startup
 - Configure Redo Log File
- **Monitoring Database**
 - Identify Poorly performing SQLs
 - Monitor Memory, Disk, Network, CPU usage
 - Monitor Alerts
 - Proactive Tablespace Monitoring
 - Monitoring Table Locks
 - Monitoring table and index space usage
- **Database Backup and Recovery**
 - Create consistent Full database backups
 - Create incremental backups
 - Automate database backups
 - Performing Database Recovery (full and partial)
 - Apply Redo Log files
- **Database Security**
 - Describe DBA responsibilities for security
 - Apply the principal of least privilege
 - Enable standard database auditing
 - Review audit information
 - Maintain the audit trail
- **Administering User Security**
 - Create and manage database user accounts
 - Authenticate users
 - Assign default storage areas (tablespaces)
 - Grant and revoke privileges
 - Create and manage roles
 - Create and manage profiles
 - Implement standard password security features
 - Control resource usage by users



Database Administration

- **High Availability**
 - Configure Database for High Availability
 - Setup Data Replication
 - Configure Continuous Data Replication
- **Basics of NoSQL including RDBMS v/s NoSQL**



12. IT Support

IT Support

- **Software**

- Basic Computer/ Data communication Terminology.
- Computer Abbreviation.
- Basics of OS, Unix/ Linux and Shell Programming.
- Programming and Database management System (C/ C++/ Java, Object Oriented Programming, Data Structures through C++, .NET Technology, SQL Server, Oracle.
- Web Designing (HTML, DHTML, Java Script, Flash, Photoshop)
- Number System, Hexadecimal number system
- Network Technologies and Internet (IP Addresses, Switches, TCP/ IP, VPN, Firewall, Cryptography and System Security, Cyber Crimes)
- Microsoft Office/ Open office (Word, Excel, power point, Access, Outlook)
- Cloud Computing (Cloud computing concepts, Cloud deployment scenarios, Security in cloud computing)
- Software Testing and Quality Management (Software testing, Testing techniques, Testing Process and Specialized Systems Testing)

- **Hardware**

- Basic Electricity and conducting material: Current, Voltage, emf, Power generation system, Switch-plug wiring, Analyzing Conductivity of elements, Types of Conductors, Semi-Conductors-Silicon, Germanium.
- Integrated Circuits and Logic Gates (AND, OR, XOR, NOT, NAND, NOR and XNOR)
- Maintenance and Troubleshooting of Operating Systems
- User Accounts, Windows utilities, Data backup, Protect Data from viruses, Installing, managing and troubleshooting Hardware devices and drivers, Antivirus, familiarization with DDS, CLI & Linux OS
- Mother Board in detail: Nomenclature, technology, standards, AMD CPUs, Cyrix CPUs. CPU over clocking, Troubleshooting, CPU problems. Chip Sets: AMD chip sets, Intel chip sets, VIA chip sets SIS. Chip sets, OPTI chipsets, Legacy and support ICS.
- PC-assembly and CMOS setup and troubleshooting: Observation of all parts of HDD, CD/DVD, and SMPS, Identification of cables and computers. Mounting Motherboard in cabinet Installation of cards, device and then connecting cables. Fitting of cabinet. CMOS-Setup Troubleshooting.
- Basics of Printers: Types of Printers, mechanism, how printer works, Inkjet printer, working of Laser printer, Fonts/ Type-faces, Troubleshooting printers.
- Regulated Power Supply: Basic regulated power supply using Zener Diode, Basic Switch Mode Power Supply (SMPS), Basic Uninterrupted Power



IT Support

Supply (UPS)



13. Cyber Crime

| Cyber Crime |
|---|
| <ul style="list-style-type: none">• Fundamentals of Cyber crime<ul style="list-style-type: none">○ Cyber Crime Concepts and Security in Evolving Technologies○ Basics of Internet, IP, Network, Firewall, Router, MODEM, devices using Internet○ Cyber Laws including IT Act, Personal Data Protection Bill 2019 and Cert-In rules 2013 |
| <ul style="list-style-type: none">• Knowledge of Common Cyber Crimes<ul style="list-style-type: none">○ Understanding of cyber-attacks and frauds committed through email○ Detection of email header, spoofing, etc.○ Knowledge of Social Engineering including phishing, Baiting, etc.○ Knowledge of Social Media, social media account hacking/spoofing, obscenity, identity theft, etc.○ Knowledge of Source code and Business Data theft |
| <ul style="list-style-type: none">• Cyber Forensics and Investigation<ul style="list-style-type: none">○ Fundamentals of Cyber Forensics and Investigation, Acquiring and presenting Evidence○ Windows and Linux Artifacts Analysis and Document Forensics○ Email Forensics and Mobile Forensics – Investigation Techniques○ Fundamentals of Security in Android, iOS, Windows and Linux and vulnerabilities○ Data recovery from Android, iOS, Windows and Linux machine○ Image creation of storage devices for data recovery |
| <ul style="list-style-type: none">• Virus and Malware Analysis<ul style="list-style-type: none">○ Fundamentals of Virus and Malware Analysis○ Knowledge of trojans and ransomware○ Advanced Static and Dynamic Analysis |
| <ul style="list-style-type: none">• Logical and Deductive Reasoning<ul style="list-style-type: none">○ Ability to understand transfer of money between accounts○ Ability to co-relate phone calls/emails (time of call, frequency, etc.) with phishing attempts○ Ability to co-relate information flow between email and SMS (OTP, etc.) |



14. OSINT Analysis

OSINT Analysis

- **OSINT as an Intelligence Collections platform**
 - What Is Open Source Intelligence?
 - How it is used?
 - Nature and functions of OSINT
 - OSINT objectives
 - Strengths and weaknesses of OSINT
- **OSINT techniques as an intelligence gathering discipline, the role that OSINT plays in the intelligence process**
 - Types of Open-Source Intelligence Techniques by using following information:
 - Search Engines
 - Social Networks: Facebook
 - Social Networks: Twitter
 - Social Networks: Instagram
 - Social Networks: General
 - Online Communities
 - Email Addresses
 - Usernames
 - People Search Engines
 - Telephone Numbers
 - Online Maps
 - Documents
 - Images
 - Videos
 - Domain Names
 - IP Addresses
 - Government & Business Records
 - Advanced Linux Tools
 - Data Breaches & Leaks
 - What Is Threat Intelligence? Definition and Examples
- **How the internet works. URL analysis, IP addressing, DNS services, and other internet related protocols.**
 - Different types of Internet Connections
 - Sandboxing
 - URL IP Lookup
 - Types of IP Addresses
 - Subnetting
 - DNS Spoofing
 - Reconnaissance tools



OSINT Analysis

- **Introduction to search engines and the composition of basic but effective search queries.**
 - Types of Search engines (Crawlers, Directories, Hybrid, Meta, Specialty Search engines)
 - Dorking
 - SSL certificates
- **Software tools and online services usable for gathering, processing, and analysis of raw data.**
 - Types of Data
 - News analytics
 - Opinion Mining
 - Scraping
 - Sentiment Analyses
 - Text Analytics
- **Identifying the registrant(s) of internet domain names and determining the physical location of websites.**
 - Whois tools
 - Reverse IP Lookup
 - IP addresses, mapping domain names to IP addresses and vice versa.
 - Using search engine caches and other historical archives of website content.
 - Harvesting web data
- **Geopolitical implications that must be considered when deciding to collect and act on intelligence**
 - Domain of internal security and safety
 - Economically, ethnically, religiously and ideologically induced factors
 - MLAT and Letter Rogatory
 - staying anonymous on the internet
 - Use of proxy servers and Web-based anonymizing tools.
 - VPN
- **Image and photo tracking, tracing, and analysis.**
 - Extracting and analyzing meta data from image-, document, audio, and video files.
 - Analyzing meta data in images, documents etc. and determining the authenticity of acquired data through hash calculations



OSINT Analysis

- **Crypto currency transactions and block chain analysis**
 - Crypto Wallets
 - Determining historic ownership of Bit Coins
 - Analyzing Bitcoin Blocks



15. Community & Victim Support

| Community & Victim Support |
|--|
| • Goals and Branches of Psychology |
| • Projective Techniques and Behavioral Assessment in Psychology |
| • Measurement of Intelligence |
| • Heredity and Environmental Influences |
| • Causes of Abnormal Behavior: Biological, Psychological and Sociocultural Causes |
| • Significance of Statistics |
| • Evolution and Types of Counselling |
| • Characteristics of an Effective Counsellor: Stages of Counselling, Basic and Core Counselling Skills, Ethical Codes, Guidelines and Issues of Counselling |
| • Individual and Group Method of Counselling |
| • Assessment and Diagnosis of Mental Health Disorders and Patterns of Maladaptive Behavior |
| • Counsellors' Skills in The Understanding the Action Phases |
| • Concept and Dynamics of Self and Challenges to Self-Development of Personality |
| • Theoretical approaches in Child Development |
| • Transactional Analysis: Types and Significance of Transactional Analysis in Counselling |
| • Tele Counselling: EMDR, Dance and Drama Therapy |
| • Areas of Assessment in Counselling and its Approaches |
| • Martial and Family Counselling |
| • Counselling for HIV/ AIDS/ Addiction and Substance Abuse/ Depression/ Geriatric Counselling/ Child Abuse/ Cyber Bullying |
| • Implications for Mental Health: Work Place Adjustment and Interpersonal Relations |
| • Counselling with Diverse Population: Parent Counselling, Counselling Women; Counselling for Child Abuse, Spousal Abuse, Elder Abuse, Abuse of The Disabled, Delinquents, Sexually Abused |



Community & Victim Support

- Psychotherapeutic Interventions and Treatments
- Family as an Agent of Socialization
- Types of Family Structure (Nuclear, Single Parent, Extended, Reconstituted Families and Dysfunctional Families)
- Relationship of Sociology with other Social Sciences
- Theories of Social Stratification
- Indicators of Social Mobility
- Techniques of Data Collection
- Measure of Marriage & Divorce: Crude Marriage Rate, Divorce Rate. Mean Age at Marriage from Census and Survey Data
- Emerging Alternative Lifestyles: (Singlehood – Never Married, Cohabitation – Living Together Without Marriage, Single Parent – Male/Female Headed Households)
- Problems of Aged and Rehabilitation
- Social Security Schemes and Other Developmental Programmes for Aged Population
- Regulating Population in India: National Family Welfare Programme, Jnani Suraksha Yojana, Beti Bachao, Beti Padhao
- Socio-Demographic Problems: (Child Labour and Child Abuse, Problems of The Elderly and Differently Abled)
- Primary and Secondary Methods and Principles of Social Work
- Tools and Techniques for Social Work Practice, Rapport Building and Interviewing
- Values and Ethics of Professional Social Work, Skills and Techniques of Social Work
- Field Practicum in Different Settings: Individuals, Family and Community; Medical; Child Care; Correctional Services; Education and Research
- Strategies of Administration and Resource Mobilization, Decision Making Process Planning, Organizing, Monitoring and Evaluation, Advocacy and Networking, Human Behavior, Human Needs, Human Motivation and Problems of Human Behavior, Learning, Socialization and Theories of Personality
- Strategies of Administration and Resource Mobilization, Decision Making Process Planning, Organizing, Monitoring and Evaluation, Advocacy and Networking, Human Behavior, Human Needs, Human Motivation and Problems



Community & Victim Support

of Human Behavior, Learning, Socialization and Theories of Personality

- Tools and Techniques in Casework: Listening, Observation, Interview – Home Visits, Collateral Contacts, Referrals – Techniques in Practice – Ventilation, Emotional Support, Action Oriented Support, Advocacy, Environment Modification, Modelling, Role-Playing and Confrontation – Case History Taking, Record Keeping – Face Sheet, Narrative, Process and Summary Recording
- Role of Social Work in Remedial, Preventive and Developmental Model
- Social Work Interventions (Vulnerable Children, Youth, Women and Family, Elderly and Disaster Management)



16. Community Counselling

| Community Counselling |
|--|
| <ul style="list-style-type: none">• Foundations of Psychology<ul style="list-style-type: none">○ Perception, Learning and Motivation, Personality and Self, Intelligence |
| <ul style="list-style-type: none">• Development of Human Behaviour<ul style="list-style-type: none">○ Growth and development; Principles of development, Role of genetic and environmental factors in determining human behaviour; Influence of cultural factors in socialization; Life span development - Characteristics, development tasks, promoting psychological well-being across major stages of the life span. |
| <ul style="list-style-type: none">• Social Psychology<ul style="list-style-type: none">○ Introduction to Social Psychology, Social Cognition, Perception and Attitudes, Aspects of Social Interaction and Influence, Group Dynamics and Intergroup Relations |
| <ul style="list-style-type: none">• Psychology of Health and Well-Being<ul style="list-style-type: none">○ Introduction to Health Psychology, Well-Being, Managing stress, illness and pain, Health-enhancing behaviors |
| <ul style="list-style-type: none">• Industrial and Organizational Psychology<ul style="list-style-type: none">○ Introduction and issues in industrial/organizational psychology, Introduction to work-related attitudes and work motivation, Leadership, Positive Organizational Behavior |
| <ul style="list-style-type: none">• Development of Human Behaviour<ul style="list-style-type: none">○ Growth and development; Principles of development, Role of genetic and environmental factors in determining human behaviour; Influence of cultural factors in socialization; Life span development - Characteristics, development tasks, promoting psychological well-being across major stages of the life span. |
| <ul style="list-style-type: none">• Learning<ul style="list-style-type: none">○ Concept and theories of learning (Behaviourists, Gestaltalist and Information processing models); The Processes of extinction, discrimination and generalization; Programmed learning, probability learning, self-instructional learning, concepts; Types and the schedules of reinforcement, escape, avoidance and punishment, modeling and social learning. |



Community Counselling

- **Motivation and Emotion**
 - Psychological and physiological basis of motivation and emotion; Measurement of motivation and emotion; Effects of motivation and emotion on behaviour; Extrinsic and intrinsic motivation; Factors influencing intrinsic motivation; Emotional competence and the related issues.
- **Intelligence and Aptitude**
 - Concept of intelligence and aptitude, Nature and theories of intelligence - Spearman, Thurstone, Gullford Vernon, Sternberg and J.P; Das; Emotional Intelligence, Social intelligence, measurement of intelligence and aptitudes, concept of IQ, deviation IQ, constancy of IQ; Measurement of multiple intelligence; Fluid intelligence and crystallized intelligence
- **Attitudes, Values and Interests**
 - Definition of attitudes, values and interests; Components of attitudes; Formation and maintenance of attitudes; Measurement of attitudes, values and interests; Theories of attitude change; Strategies for fostering values; Formation of stereotypes and prejudices; Changing others behaviour; Theories of attribution; Recent trends
- **Issues and Perspectives in Modern Contemporary Psychology**
 - Computer application in the psychological laboratory and psychological testing; Artificial intelligence; Psychocybernetics; Study of consciousness - sleep - wake schedules; dreams, stimulus deprivation, meditation, hypnotic/drug induced states; Extrasensory perception; Intersensory perception Simulation studies
- **Psychological well being and Mental Disorders**
 - Concept of health-ill health; Positive health, well being; Causal factors in mental disorders (Anxiety disorders, mood disorders, schizophrenia and delusional disorders; personality disorders, substance abuse disorders); Factors influencing positive health, well being, life style and quality of life; Happiness disposition
- **Therapeutic Approaches: Psychodynamic therapies**
 - Behaviour therapies; Client centered therapy; Cognitive therapies; Indigenous therapies (Yoga, Meditation); Bio-feedback therapy; Prevention and rehabilitation of the mentally ill; Fostering mental health



Community Counselling

- **Rehabilitation Psychology**

- Primary, secondary and tertiary prevention programmes - role of psychologists; Organizing of services for rehabilitation of physically, mentally and social ly challenged persons including old persons, Rehabilitation of persons suffering from substance abuse, juvenile delinquency, criminal behaviour; Rehabilitation of victims of violence, Rehabilitation of HIV/AIDS victims, the role of social agencies



17. Forensic Analysis

Forensic Analysis

- **Fundamentals of Forensic Science**
 - Law of individuality, principle of Exchange, Law of Probability, Principle of Comparison, Principle of Analysis, Presentation of expert evidence in the court of Law and basic understanding of different tools and techniques involved in forensic sciences
 - Definition, Nature, Need, Functions, Development of forensic science.
 - Examination, Evaluation, Scientific and modern aids at the scene of crime.
 - Presentation of evidence and evidentiary clue, expert's presentation, presenting counsel's contributions, defense counsel's role, Court's participation
 - Introduction to the Study of Human Osteology and its applications in Forensic Sciences. Gross Morphology of Human Skull, Girdle Bones, Long Bones, Vertebral Column and rib cage
 - Determination of Age, Sex and Stature from Human Skeletal material
 - Demonstration of and interpretation of different types of mechanical injuries
 - Forensic Science Laboratories- Organization Setup; Divisions and their Utilization
 - Regional Labs
 - Central and State Forensic Science Laboratories in India
- **Crime Scene Management**
 - Crime Scene Search,
 - Crime Scene Recording
 - Crime Scene Reconstruction
- **Physical Evidences**
 - Definition and Importance of Physical Evidence
 - Search and collection
 - Lifting, Handling and packing, Forwarding to Laboratory for Analysis
 - Interpretation Including Substantiating and Presentation of Document in Court
 - Handwriting and Questioned Documents; Questioned documents, Handwriting and its development, anonymous letters, alterations, disguised handwriting, collection of specimens, individual characteristics



Forensic Analysis

- **Forensic Physics**
 - Glass Fracture Studies
 - Footprints, Tyre Impression etc.,
 - Tool Marks,
 - Examination of Spurious Articles Referred in Infringement of Trade Mark Act
 - Examination of Physical Evidence in Road Accidents/ Traffic Accidents
- **Forensic Ballistics**
 - Role and Importance in Investigation,
 - Classification of Firearms and Range of Firing,
 - Collection, Handling, Preservation of Firearms and Ammunitions,
 - Type of Firearm,
 - Evidence, Kind of Information to be Elicited from the Forensic Expert
 - Understanding and Interpreting the Forensic Reports on Ballistic Examination
- **Forensic Serology and Forensic Biology**
 - Forensic Serology: Different Types of Physiological Fluids Encounter in Crime Location
 - Hematological markers & Detection of Blood stains and other body fluids
 - Handling & Collection – Do's and Don'ts,
 - Blood Spatter Pattern Analysis,
 - Interpretation of Reports
 - Forensic Biology: Significance of Biological Evidences: Hair, Fibre, Diatoms & Plant Materials, etc.
- **DNA Fingerprinting**
 - DNA FP – Introduction & its Significance in Forensic Science,
 - Types of Cases,
 - Guidelines in Handling of Evidences
 - Interpretation of Reports
- **Forensic Chemistry**
 - Investigation of fires, seat, time, natural cause, suspected arson, motive search for evidence, & its collection and evaluation
 - Definition, type, uses, improvised explosive devices, Post Blast investigation, collection of evidence and its evaluation
 - Collection- Precautions, Sampling Procedures
- **Biometrics and its Application in Investigation**
 - Fingerprints
 - Footprints
 - Facial recognition system
 - Automated Fingerprint Identification System
 - Specimen Fingerprint and Fingerprint Bureau



Forensic Analysis

- **Advances in Forensic Science**
 - Forensic Engineering,
 - Audio – Voice Analysis,
 - Forensic Nursing
 - Railway Forensics
- **Field Level Forensic Tools**
 - Application of Alternate Light Sources
 - Kits for Detection of NDPS and Explosives
 - Detection of Body Fluids
- **Forensic Anthropology**
 - Methods of Establishing identity of Living and Dead
 - Determination of Age, Odontology, Human Anthropology
- **Post Mortem**
 - The Post-Mortem Examination, Examination of Mutilated Bodies and Skeletal Remains
 - Appreciation of Medico-Legal Reports
 - Framing of Questionnaires for Doctors, Exhumation
- **Introduction to Forensic Medicine**
 - Medico Legal Aspects of Death- Determination of Causes and time of Death.
 - Distinction Between Homicidal, Suicidal, Accidental and Natural Deaths
 - Medico Legal Aspects of insanity
- **Body Offences**
 - Violent Asphyxia Deaths - by Hanging, Strangulation, Throttling, Suffocation and Drowning
 - Different Types of Wounds – by Fire Arms, Sharp - Edged or Pointed Weapons or Explosive, Burns and Scalds
 - Mechanical Injuries, Death and Injuries Caused by Heat, Cold, Lightening or Electrocutation
- **Traffic Accidents**
 - Deaths and Injuries Arising Out of Traffic Accidents - Drunken Driving
- **Sexual Offences**
 - Rape, Criminal Abortion and Infanticide and b) Medico-Legal Aspects of Insanity



Forensic Analysis

- **Toxicology**
 - Poisons Commonly Used in India in the Commission of Crime and for Suicides – their Symptoms and Detection in Living Subjects and Dead Bodies,
 - Medical Negligence,
 - Recent Advances in Forensic Medicine
 - Chemical, Biological, Radiological and Nuclear Disasters
- **Forensic Statistics**
 - Type of data measure of Central Tendency Dispersion of Data, Correction, Probability and proof
- **Psychological Techniques in Forensic Science**
 - Polygraph, Narco Analysis, Brain Mapping, Hypnosis and their legal status
- **Computer Forensics**
 - Introduction to Computer and Cyber Crimes – Hacking, Virus, Phishing, Pornography, software piracy, program manipulation, ATM Frauds, role of forensic scientists in Computer Crime Investigation and prevention



18. Human Resource Management

Human Resource Management

- **Effective Communication Understanding the Foundations of Business Communication**
 - Communication Models
 - Communication Process
 - Characteristics of effective business communication
 - Barriers in communication environment
 - Communication and Ethics
 - Cross Cultural Communication
 - Guidelines for successful collaborative writing
 - Social networking technologies in business communication
 - Importance of listening
 - Business etiquette & Non-Verbal Communication
 - *The Three-Step Writing Process: Importance of analyzing the situation before writing a message*
 - Information-gathering options & Information organization
 - Writing Business Communication: Adapting to your audience
 - Crafting brief messages & messages for electronic media
 - Planning, Writing, and Completing Reports and Proposal and Emails
 - *Designing and Delivering Oral and Online Presentation*
 - Developing oral and online presentations
 - Enhancing presentations with slides and other visual aids
 - Just-A-Minute Presentation
 - Individual/Group Presentations
 - Group discussion
 - *Writing Employment Messages and Interviewing for Jobs*
 - Employment strategy
 - Planning, writing and completing your resume
 - Applying and Interviewing for Employment: Understanding, preparing and follow-up
 - Conducting Role Play and Simulation games
 - *Translation*
 - From Hindi/Punjabi to English and vice-versa



Human Resource Management

- **Management Principles & Organizational Behaviour Behaviour in Organizations**
 - The Concept & Significance of Organisational Behaviour
 - Models
 - Foundation of OB & contributing Disciplines
 - Informational Technology and Organisational Behaviour.
 - Challenges and opportunities for OB.
 - *Individual Behaviour and Interpersonal Behaviour*
 - Foundations of Individual behaviour Determinants of Individual behaviour
 - Types and sources of emotions
 - Emotional intelligence
 - Managing emotions at work place
 - Determinants of personality
 - Models of personality
 - Traits of personality
 - *Transactional analysis*
 - Ego states & Life positions
 - Johari window model
 - Perception: Perceptual Process
 - Error in Perception
 - Improving Perception
 - *Learning and Reinforcement*
 - Theories of learning
 - Schedules of reinforcement
 - Behaviour modification
 - Learning Organizations
 - *Motivation*
 - Theories of motivation
 - Application of motivation process
 - *Leadership*
 - Theories of leadership
 - Behavioural styles of leaderships
 - Leadership traits
 - Leadership for Creating high performance culture
 - Leadership development methods
 - *Team & Group Behaviour*
 - Stages of Team Development
 - Team Norms & Cohesiveness
 - Meaning, Characteristics and types of Teams
 - Creating effective teams & Managing their performance
 - Types of Teams & Their Composition
 - Issues in team management
 - Nature and concept of group
 - Group formation



Human Resource Management

- Stages & Theories of group formation
- Group Properties: Roles, Norms, Status, Size, Cohesiveness & Decisions Making
- Conflict resolution in teams
- Competitive vs collaborative behaviour
- *Organizational Culture*
 - Meaning, Concept and dimensions of organizational culture
 - Developing organizational culture
 - Cultural differences
- *Organizational design*
 - Factors influencing organisational design: organizational strategy, size, technology, environment
 - Dimensions of Organizational design: Complexity, formalization, centralization
 - Common organizational designs: Traditional designs and contemporary designs
- *Conflict & Stress Management*
 - Meaning, Types and Sources of conflict
 - Process of conflict management
 - Approaches to conflict management
 - Stress management: sources of stress, approaches for stress management
- *Power and Politics in organizations*
 - Nature & concepts
 - sources and types of power
 - tactics and techniques of politics
- *Organisational Change*
 - Forces for Change
 - Resistance to Change
 - Overcoming Resistance to Change
 - Models of Change
- **Data Driven Decision Making & HR Analytics Introduction to Statistics**
 - Meaning, Definitions, Features of statistics
 - Importance, Functions, Scope and Limitations of Statistics
 - Applications of inferential statistics in managerial decision making.
 - Data Collection
 - Sources of Primary and Secondary data
 - Presentation of Data
 - *Classification and Tabulation of Data*
 - Concept and types of classification
 - Frequency distribution
 - *Sampling Concepts*
 - Meaning of Population and Sample
 - Parameters and Statistics



Human Resource Management

- Descriptive and Inferential Statistics
- Probability and Non Probability Sampling Methods including Simple Random Sample, Stratified Sampling, Systematic Sampling, Judgement Sampling and Convenience Sampling
- *Theory of Probability*
 - Meaning of Probability
 - Approaches to the calculation of probability
 - Calculation of event probabilities
 - Laws of Probability
- *Probability Distribution*
 - Binomial Distribution: Probability Distribution function
 - Constants, Shape, Fitting of Binomial Distribution
 - Poission Distribution: Probability Function, Constants
 - Fitting of Poission Distribution
 - Probability Distribution Function
 - Properties of Normal Curve
 - Calculation of Probabilities
 - Normal Distribution
- *Business Forecasting*
 - Introduction to Business Forecasting
 - Role of forecasting in business
 - Steps in forecasting and methods of forecasting
 - Statistical Analysis Softwares: SPSS
- *Measures of Central Tendency*
 - Mean, Median, Mode, Measure of dispersion
 - Range, quartile deviation
 - Average deviation and Standard deviation
 - Simple Correlation and Regression Analysis
 - Assumptions
 - Pearsons product moment and Spearman's rank correlation method
 - Least squares technique
 - Properties of correlations and regression coefficients
- *Report Writing*
 - Types of Research Reports
 - Guidelines for Writing a Report
 - Report Format
 - Guidelines for evaluating a report
- *HR Analytics*
 - Introduction to HR Analytics
 - Definition & Importance of HR Analytics
 - A Brief History of HR Analytics
 - Best Practices in HR Analytics
 - HR Analytics Framework
- *Business Research Methodology*
 - Introduction, Definition, Scope



Human Resource Management

- Basic and Applied Research
- Managerial Value of Business Research
- Research Process.
- *Research Designs*
 - Exploratory, Descriptive and Experimental Research Designs
- *Scaling Designs & Measurements*
 - Concepts of Measurement
 - Levels- Nominal, Ordinal, Interval and Rating Scale
 - Measurement Errors
 - Comparative and Non- Comparative Scaling Techniques
 - Questionnaire and Questionnaire Design Process

- **Strategic Human Resource Management Human Resource Management**

- Introduction; Meaning and Definitions, Brief History & Nature of HRM
- Scope & Functions of HRM
- Importance and Limitations of HRM
- Challenges faced by Modern HR Managers
- Evolution of HRM
- *Strategic HRM*
 - Integrating HR strategies with Business strategies
 - Scope of HR as a Strategic Partner
 - Traditional vs. strategic HR
 - external and internal analysis for strategic HR management
- *Human Resource Planning*
 - Introduction, Definition & Features
 - Need for HR planning
 - Objectives & Process
 - Factors affecting HR planning
 - Types & Benefits
 - Problems in HR planning and suggestion for making HR planning effective
- *Job Analysis*
 - Meaning and objective
 - Process & Methods of collecting job data
 - Uses of Job analysis
 - Problems of Job analysis
 - Job description
 - Job specification
- *Job Design*
 - Job simplification
 - Job rotation
 - Job enrichment
 - Job enlargement
- *Recruitment & Selection*



Human Resource Management

- Sources of recruitment
- policies and procedure of recruitment
- process, testing and interviews
- Placement, Induction & Onboarding programmes
- *Talent Management*
 - Concept of Competencies,
 - Competency Frameworks,
 - Issues Related to Developing Competency Models.
 - Formation of a Competency Framework
 - Sources of Competency Information,
 - Competency Mapping and Assessment Centres.
- *Training & Development*
 - Concepts, Importance of Training
 - Identification of Training Needs.
 - Types of Training: On the Job and Off the Job Methods of Training.
 - Designing and Evaluation of Training Programmes.
 - Meaning of Development,
 - Difference between Training and Development.
- *Career Life Cycle planning*
 - Career life cycle
 - process of career planning and development,
 - Characteristics of present-day careers;
 - Career Stages.
 - Mentoring; Concept & Perspectives of Mentoring
 - Phases of the Mentoring Relationship,
 - Outcomes of Mentoring Programmes,
 - Design and Implementation of formal mentoring programmes,
 - Barriers to Mentoring.
 - Internal Mobility and Transfers
 - Promotions, Demotions and Other Forms of Separations & Transfers
- *Performance Management*
 - Performance management system,
 - Performance counseling,
 - Performance planning,
 - Performance appraisal,
 - Potential appraisal,
 - Problems and errors in performance appraisal.
 - Performance monitoring,
 - Performance implementation,
 - Role of HR professionals in performance management,
 - Performance management through training and development,
 - Ethics in performance management.
 - Performance Management and strategic planning,
 - EFQM Model;
 - Alternative models for Assessing Performance-



Human Resource Management

- Balance score card
- Outcome metrics; Economic Value Added (EVA).
- Building a High- Performance Culture; Performance Management & Employee Development,
- Performance Management and Rewards
- Meaning of Performance Appraisal
- Process of Performance appraisal,
- Methods and problems of performance appraisal.
- *Compensation Management*
 - Concept, Principles and Practices;
 - Theories of Compensation;
 - Compensation in a Knowledge Based World.
 - Foundations of Compensation
 - Performance Evaluation,
 - Job Evaluation, Job Grading and Job Design
 - Monetary and Non-Monetary Rewards;
 - Fringe Benefits,
 - Developing Strategic Compensation Alternatives
 - Components of Compensation
 - Compensation Laws
- *Organizational Change*
 - Definitions & its distinguishing characteristics,
 - Dynamics of planned change, models and theories of planned change,
 - Triggers for change, strategies for implementing organizational change
- *Foundations of OD*
 - Conceptual Framework of OD,
 - Historical background of OD,
 - Values, Assumptions and Beliefs in OD,
 - Systems theory
 - Participation and Empowerment,
 - Teams and Teamwork,
 - Inter-Disciplinary Nature of OD.
 - Action Research and OD
 - Managing the OD Process
 - Diagnosis, The Six-Box Model
 - Nature of OD intervention,
 - Characteristics of OD interventions.
- *Diversity & Inclusion*
 - Scenario & Challenges
 - Gender sensitivity
- *Employee Engagement*
 - Concept of Engagement
 - Quality of Work Life,
 - Grievance Handling,
 - Suggestion Schemes,



Human Resource Management

- Employee Retention,
- Factors Responsible for High Employee Turnover,
- Employee Retention Strategies
- *Work-Life Integration*
 - Changing notions of work-family relationship;
 - Work – Life Issues;
 - Work – Family Conflict:
 - Work – Life Balance;
 - Work – Life Integration
 - Approaches to Work – Life Integration
 - Objectives,
- *HR Audit*
 - Need & Process

- **HRIS & Information Technology HR Information System**

- Meaning, Process, Needs & Objectives of a HRIS
- HRIS needs analysis
- Standard software and Customized software
- Relevance of decision making concepts for information system design
- Designing & Implementing of HRIS
- Planning & control
- Organization structure; Authority & responsibility flows
- Organization Culture and power-data capturing
- Personnel Inventory/ HR Records
- Purpose, Essentials of Good Record Keeping, Significance, Description
- *Data management for HRIS*
 - Data formats
 - Entry procedure & process
 - Data storage & retrieval
 - Transaction processing
 - Office automation and information processing & control functions
- *Implementation of HRIS*
 - Challenges & security of data and operations of HRIS modules
 - IT adoption problems and how to overcome
 - Orientation & Training modules for HR & other functionaries
 - HRIS & Employee legislation
 - Software packages for human resource information system including ERP software such as SAP, RAMCO etc
 - Knowledge Management - Managing technological Change
- *MS- Office*
 - MS Word - Basic Features; Create, Save, Print etc
 - MS-PowerPoint - Create a Presentation, Insert Charts &Hyperlinks
 - MS- Excel - Maintain Spreadsheets, Use Formulas, Perform Basic Functions
- *IT Enabled Work tools*



Human Resource Management

- Video Conference tools
- Email Applications



Let me never deviate from doing a
righteous deed

- TSS Cadre, Punjab Police